

REMARKS

In response to the Advsiry Action mailed July 11, 2005, independent claims 1, and 13 have been amended to recite the shell of an inventive reflective pavement marker being formed of a polyacrylate or polycarbonate that has a maximal tensile strength of greater than 10,000 pounds per square inch and a flexural modulus of greater than 450,000 pounds per square inch without resort to the other components that go into a complete marker. As the shell structure is that marker component that provides the improved survivability relative to competitive markers, the Declaration of Mr. McHugh is believed to be commensurate with the claimed subject matter.

Currently, claims 1, 3-20, and 22-25 stand rejected under 35 U.S.C. §103(a) over Heenan (U.S. 3,332,327) in view of Coderre et al. (U.S. 6,325,515) and further in view of "Acrylic (Polymethyl-Methacrylate) Specifications".

Remarks Directed to Claim Rejection

The basis of the rejection is that Heenan teaches all of the claim limitations with the exception of a bond coating covering at least the reflective coating. Coderre et al. is provided to bolster Heenan with respect to a bond coating covering at least a reflective coating. The "Acrylic (Polymethyl-Methacrylate) Specifications" is cited to teach that claimed limitations with respect to tensile strength (8,000-11,000 psi) and flexural modulus (350,000-500,000 psi) are inherently met by the methyl methacrylate shell according to Heenan.

The courts have consistently stated that "even a slight overlap in range establishes a *prima facie* case of obviousness." *In re Peterson*, 65 USPQ2d 1379 (CAFC 2003), page 1382

citing *In re Woodruff*, 919 F.2d at 1578, 16 USPQ2d at 1936-37; *In re Malagari*, 499 F.2d at 1303, 182 USPQ at 553.

Rebuttal of a *prima facie* case of obviousness based upon an overlapping range requires that the applicant establish that the claimed range achieves unexpected results relative to the prior art range. Again, the court in *In re Peterson* at 65 USPQ2d 1383 has summarized the requirements for rebuttal of a *prima facie* case of obviousness based on range overlap as follows:

In general, an applicant may overcome a *prima facie* case of obviousness by establishing "that the [claimed] range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Geisler*, 116 F.3d at 1469-70, 43 USPQ2d at 1365 (alteration in original) (quoting *In re Woodruff*, 919 F.2d at 1578, 16 USPQ2d at 1936). That same standard applies when, as here, the applicant seeks to optimize certain variables by selecting narrow ranges from broader ranges disclosed in the prior art. See *In re Geisler*, 116 F.3d at 1470, 43 USPQ2d at 1365 ("Only if the 'results of optimizing a variable' are 'unexpectedly good' can a patent be obtained for the claimed critical range." (quoting *In re Antoine*, 559 F.2d 618, 620, 195 USPQ 6, 8 (CCPA 1977))); *In re Wertheim*, 541 F.2d 257, 267, 191 USPQ 90, 100 (CCPA 1976) (recognizing that "ranges which overlap or lie inside ranges disclosed by the prior art may be patentable if the applicant can show criticality in the claimed range by evidence of unexpected results"). Moreover, the applicant's showing of unexpected results must be commensurate in scope with the claimed range. See *In re Greenfield*, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978) ("Establishing that one (or a small number of) species gives unexpected results is inadequate proof, for 'it is the view of this court that objective evidence of non-obviousness must be commensurate in scope with the claims which the evidence is offered to support.'" (quoting *In re Tiffin*, 448 F.2d 791, 792, 171 USPQ 294, 294 (CCPA 1971))).

As the Applicant has already made of record, polyacrylate and polycarbonate pavement marker shells are admittedly prior art to the present invention. However, the present invention, through identification of the minimum required tensile strength and tensile modulus values, has developed a pavement marker shell that while structurally has considerable similarities to

Heenan and other conventional markers represents the only raised pavement marker tested by the Florida Department of Transportation to receive conditional approval as capable of maintaining structural integrity and luminosity for a period of two years. Although polyacrylate and polycarbonate are well known to the art, the present invention rests upon the identification of the minimum values of these two parameters that are critical to long-term impact survivability of the resultant lane marker and the specific values for tensile strength and modulus are submitted to be essential and meet the requirements of the Florida Department of Transportation since structurally identical markers with a conventional polymethyl methacrylate shell not satisfying claim limitations with respect to tensile strength and modulus could not survive two years of road exposure.

In light of the declaration of David McHugh, it is respectfully submitted that the attached claims in having limitations as to tensile strength and tensile modulus represent a limitation not provided in the prior art and that these limitations are critical to forming a pavement marker capable of surviving highway use for up to two years whereas otherwise comparable markers lacking claimed limitations typically survive no more than six months of road exposure. As these claim limitations are both critical and nowhere found in the prior art, it is respectfully submitted that Applicant has overcome the outstanding rejection.

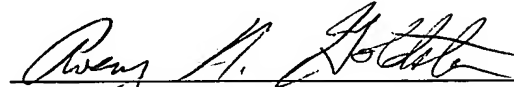
Reconsideration and withdrawal of the rejection as to claims 1, 3-20, and 22-25 under 35 U.S.C. §103(a) over Heenan in view of Coderre et al. and the "Acrylic (Polymethyl-Methacrylate) Specifications".

Summary

Claims 1, 3-20, and 22-25 are pending in this application. This amendment is believed to be fully responsive to the outstanding Office Action. Reconsideration and allowance of the

claims and the passing of this application to issuance are solicited. Should the Examiner find to the contrary, it is respectfully requested that the undersigned attorney in charge of this application be contacted at the telephone number given below.

Respectfully submitted,



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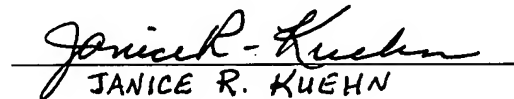
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